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133 A Meta-analytic review of the prevalence of neuropathic pain in the general population of the global south compared to the global north

Category: Reviews.

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Background

It is suspected that the prevalence of Neuropathic pain (NeP) is higher in the countries normally categorized as belonging to the global South, i.e. developing countries, because of the high prevalence of NeP generating diseases including HIV, diabetes mellitus and cancer. However, few articles have estimated the prevalence of NeP in these limited resource countries. By contrast, the prevalence of NeP worldwide has been evaluated in two systematic reviews to range between 3.3% in Austria to 8.2% in the UK (Smith and Torrance, 2012, Hecke et al., 2014) with an outlier of prevalence at 17% in Canada.

Aims

The aim of this systematic review was to screen the literature for the prevalence of NeP in the general population of the global South and to compare this prevalence with the prevalence in the global North using a meta-analytic approach.

Methods

Pubmed; Sienccedirect; EMBASE; AMED and PsycINFO databases were searched on July 2016 to capture peer reviewed articles that contain data on NeP prevalence either in adult general populations or among chronic pain patients. Two reviewers applied the inclusion criteria and extracted information from all eligible studies including study period, country, study design, sample size, tools to diagnose NeP, outcome and overall prevalence and judged the outcome for each study by scrutinising the methods and result section. Guidelines for reporting Meta-Analysis of Observational Studies in Epidemiology (MOOSE) (Stroup, 2000) and Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher, 2009) were followed. Random effects modelling was applied on extracted data to produce the overall prevalence in the two study areas. Effect size and confidence intervals of overall prevalences was calculated by producing Forest plots in the Comprehensive Meta-analysis software. Risk of publication bias and heterogeneity between studies were also estimated.

Results

Out of the 624 studies identified in the search 14 studies were finally selected (total sample size of 78421 patients, 8137 from developing countries (global south) and 70284 from developed countries (global north). The average quality score of all studies was 6.7 out of a maximum of 8. There was a high level of heterogeneity between the studies ($I^2 > 90$) possibly because of differences in the target populations, sample sizes, study design and data collection methods. However, there was no publication bias as the Egger's test value was not significant ($p = 0.053$). The prevalence of NeP worldwide was 4.8 % (95%CI, 4.7%-5.0%). Only four studies were conducted in the global South; 2 in

Libya, 1 in Morocco and 1 in Brazil. The prevalence of NeP in the global South was 8.3% (7.7%-9.0%). The overall prevalence in the global North was 4.9% (4.7%-6.0%).

Conclusion

There were few studies on the prevalence of NeP in the global South suggesting that there is less awareness of the significance of NeP in the developing countries. Differences exist between the studies in each region in the estimate of the prevalence of NeP and this is mainly because of differences in data collection methods. Clinical examination tends to produce more variable estimates than telephone, postal and internet based questionnaires using NeP screening tools such as DN4 and S-LANSS. This meta-analysis tentatively suggests that the prevalence of NeP is significantly higher in the global South compared to global North.